

(5) Summary of Claimed Subject Matter

The currently pending claims relate to producing and processing a data file having different file format elements encapsulated within the data file. The following summarizes independent claims 122 and 157.

Independent claim 122 is directed to a method of streaming multimedia objects encapsulated into a multimedia document such as, for example, a multimedia document formatted in accordance with an ARTDOC document file format 500. See Fig. 5 in the application specification. In one particular example, an author specification of multimedia content and choreography information is received, such as, for example, the author specification of the information in an object archive 504 containing an object hierarchy 200 and a multiplex section 516 containing object data organized in accordance with an author specified choreography. See Figs. 5 and 6; page 17, line 1 to page 19, line 9; and page 22, lines 5-21. The multimedia content is defined by at least first, second, and third multimedia objects, such as, for example, multimedia objects having data contained in the multiplex section 516 of an ARTDOC file 500 and geometry and attribute information contained in the object archive 504 of the ARTDOC file 500. See page 18, lines 3-7. Data slices of the first and second multimedia objects are interleaved with each other and added to a multimedia document, such as, for example, data slices of objects that are designated by the author to be interleaved with each other and have their data interleaved in a single choreography group 610. See page 18, lines 8-12; page 21, lines 5-18; and page 22, lines 5-10. Data slices of the third multimedia object are added to the multimedia document without interleaving the data slices of the third multimedia object with the data slices of other objects in the multimedia document, such as, for example, data slices of a single progressively rendered non-interleaved object in the multiplex section 516 which is not interleaved with other objects in the multiplex section 516. See page 18, line 15 to page 19, line 4. The multimedia document is streamed to a recipient for rendering according to the choreography information, such that the data slices of the first and second multimedia objects are progressively rendered before all data slices of the first and second multimedia objects are received and the data slices of the third multimedia object are progressively rendered only after a

sufficient amount of the data slices of the third multimedia object are received to enable rendering of the third multimedia object. See page 22, lines 5-21.

Independent claim 157 is directed to a computer program comprising instructions for implementing the above-described method of claim 122.

(6) Grounds of Rejection

(a) Claims 124 and 130, which depend from claim 122, have been rejected as failing to comply with the enablement requirement.

(b) Independent claims 122 and 157, along with their dependent claims 123, 125-129, 132, 134-136, 140, 143-146, 153-156 and 158-165, have been rejected under 35 U.S.C. § 103(a) as being obvious over Near (U.S. Patent No. 5,995,091).

(c) Claims 131, 133, 141, 142, 147-152, which depend from claim 122, have been rejected, under 35 U.S.C. § 103(a), as being obvious over Near in view of one of Cave (U.S. Patent No. 5,943,046), Shaw et al., Microsoft Office 6-in-1, Johnson (U.S. Patent No. 5,892,847), and Caire (U.S. Patent No. 5,663,962).

(7) Argument

Appellants submit the following arguments in support of reversal of the rejections of the above-listed claims.

(a) Claims 124 and 130, which depend from claim 122, are enabled.

Claims 124 and 130, which depend from claim 122, have been rejected as failing to comply with the enablement requirement. With respect to claim 124, the Examiner asserts in the final office action that claim 124, which recites “wherein all of the data slices of the third multimedia object are progressively rendered before any of the data slices of the first and second multimedia objects are progressively rendered,” is not enabled because:

it is impossible that all of the data slices of the third multimedia object are progressively rendered before any of the data slices of *the first and second multimedia objects are progressively rendered*. As recited in claim 122, *the data slices of the first and second multimedia objects are progressively rendered before* all data slices of the first and second multimedia objects are received, and the data slices of *the third multimedia object are progressively rendered only after* a sufficient amount of the data slices of the third multimedia objects are received to enable rendering the third object. Thus, based on claim 122, it appears

that the third multimedia object can not be rendered before the rendering of the first and second multimedia object.

(Final Office Action, page 3). Appellants disagree with the Examiner's assertion that claim 124 is not enabled. Appellants refer the Examiner at least to pages 18, 19, and 21 and Fig. 6 of the application for a description that enables one skilled in the art to practice claim 124. Appellants also disagree with the Examiner's assertion that "it is impossible" to practice claim 124.

As one specific example, all of the data slices of the third multimedia object may be non-interleaved (e.g., the third multimedia object may be a "temporal" file) and contained in one or more first choreography groups 610 of a bit stream (see Fig. 6). The data slices of the first and second multimedia objects may be interleaved together and contained in a second choreography group 610 of the bit stream for delivery at a later point in time. In this specific example, all of the data slices of the third multimedia object are received as part of the one or more first choreography groups prior to receipt of the later delivered second choreography group that contains the data slices of the first and second multimedia objects. Accordingly, all of the data slices of the third multimedia object may be rendered prior to receiving, and certainly prior to rendering, any of the data slices of the first and second multimedia objects. Yet, the data slices of the third multimedia object may still be progressively rendered only after a sufficient amount of data slices of the third multimedia object are received to enable rendering, and the data slices of the first and second multimedia objects, which are received after the rendering of all of the data slices of the *third multimedia object*, may still be progressively rendered before all data slices of the first and second multimedia objects are received.

For at least these reasons, appellants request reconsideration and withdrawal of the rejection of claim 124.

With respect to claim 130, the Examiner asserts that claim 130, which recites "wherein the rendering of the first, second, and third objects is delayed until all of the data slices of the third object are received by the recipient," is not enabled because:

it is impossible that rendering of the first, second, and third files be delayed until all of the objects of the third file are received by the recipient. As recited in claim 122, *the data slices of the first and second multimedia objects are progressively rendered before* all data slices of the first and second multimedia objects *are received*, and the data slices of the *third multimedia object are progressively rendered only after* a sufficient amount of the data slices of the third multimedia objects *are received* to enable rendering the third object. Thus, based on claim 122, it appears that the first and second multimedia objects are rendered before rendering of the third multimedia object, and thus such delay does not happen.

(Office Action, page 4). Appellants disagree with the Examiner's assertion that claim 130 is not enabled. Appellants refer the Examiner at least to pages 18, 19, and 21 and Fig. 6 of the application for a description that enables one skilled in the art to practice claim 130. Appellants also disagree with the Examiner's assertion that "it is impossible" to practice claim 130.

As one specific example, all of the data slices of the third multimedia object may be non-interleaved and contained in one or more first choreography groups 610 of a bit stream (see Fig. 6). The data slices of the first and second multimedia objects may be interleaved together and contained in a second choreography group 610 of the bit stream. The second choreography group 610 may be delivered by the bit stream subsequent to the delivery of the one or more first choreography groups 610. Therefore, all of the data slices of the third multimedia object may be received as part of the one or more first choreography groups prior to receipt of the later delivered second choreography group that contains the first and second multimedia objects. Accordingly, in this specific example, the bit stream may be structured such that the rendering of the third multimedia object is delayed until all of the data slices of the third multimedia object in the one or more first choreography groups have been received by the recipient, and the rendering of the first and second multimedia objects, which are subsequently received by the recipient as part of the later delivered second choreography group, are also therefore delayed until all of the data slices of the third multimedia object have been received. Yet, the data slices of the third multimedia object may still be progressively rendered only after a sufficient amount of data slices of the third multimedia object are received to enable rendering, and the data slices of the first and second multimedia objects, which are received after the rendering of all of the data slices of the *third multimedia object*, may still be progressively rendered before all data slices of the first and second multimedia objects are received.

For at least these reasons, appellants request reconsideration and withdrawal of the rejection of claim 130.

In the advisory action mailed on March 2, 2006, the Examiner states that "the Examiner does not see any non-interleaved slices of multimedia objects in the choreography group 601 [sic] of Fig. 6, but instead only interleaved slice data." Appellants refer the Examiner to the description in the specification on page 19: "The classes of objects that are not interleaved are

detected by the ARTDOC document and are placed in their own choreography groups within the multiplex section 516. These groups may be arranged with interleaved multiplex groups without degrading playback, as interleaved and non-interleaved groups do not overlap” (emphasis added). Accordingly, as is clear from the specification and the above description, noninterleaved objects and their slices may be placed in their own choreography groups 610 in the multiplex section 516 of Fig. 6. While Fig. 6 includes an exploded view of one particular choreography group 610 that includes interleaved slice data, this does not imply that choreography groups 610 only include interleaved slice data. On the contrary, as is clear from the citation above, the application specification both contemplates and enables choreography groups 610 that include non-interleaved slice data.

(b) The subject matter of independent claims 122 and 157, along with their dependent claims 123, 125-129, 132, 134-136, 140, 143-146, 153-156 and 158-165, is not obvious in view of the teachings of Near.

Independent claim 122 relates to a method of streaming multimedia objects encapsulated into a multimedia document and recites, among other things, “interleaving data slices of the first and second multimedia objects with each other...” and “adding data slices of the third multimedia object to the multimedia object without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document” (emphasis added). Near fails to describe or suggest at least these features of claim 122.

As stated in the response to the Office Action of January 14, 2005, in the multimedia system of Near, images and sounds are always interleaved for playback. (Near at col. 7, line 37 to col. 8, line 27). As such, Near does not describe or suggest, and indeed teaches away from, “adding data slices of the third multimedia object to the multimedia document without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document” (emphasis added), as recited in claim 122.

The Examiner, however, asserts that this feature is described by Near, stating:

-adding the data slices of the first and second multimedia objects to the multimedia document without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document (col. 9, lines 21-67, col. 13, lines 1-34: interleaving multimedia objects and adding these objects to the multimedia document; some separate audio and video are combined to reproduce the playback output

shows that said separate audio and video are added to the multimedia document playback without interleaving)

(Office Action, page 5). Contrary to the Examiner's assertion, however, Near does not describe or suggest that "separate audio and video are added to the multimedia document playback without interleaving," much less describe or suggest the recited feature.

As stated in the response to the final office action filed on February 2, 2006, in col. 9 lines, 21-67, Near describes the operation of an interleaver element that builds an *interleaved* playback stream. Fig. 2 of Near shows the structure of the *interleaved* playback stream as including headers, commands, time stamps, and image data portions and sound data portions. Accordingly, Near only describes playback of *interleaved* image and/or audio data, not playback of non-interleaved image and/or audio data, as asserted by the Examiner.

Near also describes the operation of a manager software engine 401 which scans the interleaved playback data stream, parses the data stream, and sends the various image data portions and/or sound data portions to a video engine 413 and/or an audio engine 415, respectively, for playback. See col. 11, line 51 to col. 12, line 6. Notably, the operation of the manager software engine 401 is specifically premised on the existence of a playback data stream having the structure described previously, i.e., a playback data stream having an *interleaved* structure like that shown in Fig. 2.

In col. 12, line 52 through col. 13, line 34, Near describes a system that receives multiple playback data streams in parallel from multiple different data sources 701, 702, 703 and 704. All of the playback data streams are *interleaved* data streams, as they are each processed by the same manager software engine 401 described previously by Near. See also Fig. 7 of Near. The manager software engine 401 parses each of the multiple *interleaved* playback data streams, and queues the various image data portions and/or sound data portions to be passed at the appropriate time to an audio and/or video software engine of one of multiple run-time instances 705, 706, 707, and 708. The multiple run-time instances 705, 706, 707, and 708 perform operations in parallel to provide separate "tracks" of audio and/or image playback output. The separate tracks of audio and/or images are then combined by an audio mixer 710 or an image composite engine 712 to form a combined output.

Notably, contrary to the Examiner's assertion, Near does not describe or suggest that "separate audio and video are added to the multimedia document playback without interleaving." Rather, all of the audio and video described by Near is delivered in a specifically formatted *interleaved* playback data stream, and accordingly, Near fails to describe or suggest, and in fact teaches away from, a method of streaming multimedia objects that includes "adding data slices of the third multimedia object to the multimedia document without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document," as recited in claim 122.

For at least these reasons, appellants request reconsideration and withdrawal of the rejection of claim 122, and its dependent claims 123, 125-129, 132, 134-136, 140, 143-146, and 153-156.

Independent claim 157 relates to a computer implemented device for streaming multimedia objects encapsulated into a multimedia document, and recites, among other things, instructions for "interleaving data slices of the first and second multimedia objects with each other" and "adding data slices of the third multimedia object to the multimedia object without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document" (emphasis added). For at least the reasons discussed above with respect to claim 122, independent claim 157, and its dependent claims 158-165, are patentable over Near.

In the advisory action mailed on March 2, 2006, the Examiner reiterates his previous rejection in response to the above assertions: "Regarding the 103 rejection, providing separate tracks of audio and images output as well as reproducing available video and image (col. 13, lines 1-34) shows that the multimedia data is added to the multimedia object without interleaving the data slices of the multimedia object." For the reasons stated above, however, appellants assert that all of the audio and video described by Near is delivered in a specifically formatted *interleaved* playback data stream processed by the same manager software engine 401. The portion of Near cited by the Examiner is not inconsistent with this conclusion.

(c) The subject matter of claims 131, 133, 141, 142, 147-152, which depend from claim 122, is not obvious in view of the teachings of Near, Cave, Shaw et al., Microsoft Office 6-in-1, Johnson, and Caire.

Previously presented claims 131, 133, 141, 142, 147-152, which depend from claim 122, have been rejected, under 35 U.S.C. § 103(a), as being obvious over Near in view of one of Cave (U.S. Patent No. 5,943,046), Shaw et al., Microsoft Office 6-in-1, Johnson (U.S. Patent No. 5,892,847), and Caire (U.S. Patent No. 5,663,962). Cave, Shaw, Johnson, and Caire do not cure, nor are they relied upon to cure, any of the deficiencies discussed above with respect to Near. Accordingly, claims 131, 133, 141, 142, 147, 148, and 149-152 are patentable over Near, Shaw, Johnson, and Caire.

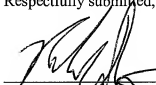
For at least the above reasons, appellants respectfully request the reversal of the rejections of claims 122-136 and 140-165.

The fee in the amount of \$500 in payment for the appeal brief fee is being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply any other charges or credits to Deposit Account No. 06-1050.

Date: _____

6/5/06

Respectfully submitted,



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Appendix of Claims

1-121. (cancelled).

122. (Previously presented) A method of streaming multimedia objects encapsulated into a multimedia document, the method comprising:

receiving author specification of multimedia content and choreography information that indicates a temporal order for rendering the multimedia content, the multimedia content being defined by at least first, second, and third multimedia objects,

interleaving data slices of the first and second multimedia objects with each other and adding the interleaved data slices to a multimedia document;

adding data slices of the third multimedia object to the multimedia document without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document; and

streaming the multimedia document to a recipient for rendering according to the choreography information, such that the data slices of the first and second multimedia objects are progressively rendered before all data slices of the first and second multimedia objects are received and the data slices of the third multimedia object are progressively rendered only after a sufficient amount of the data slices of the third multimedia object are received to enable rendering of the third multimedia object.

123. (Previously presented) The method of claim 122 wherein the data slices of the first, second, and third multimedia objects are progressively rendered substantially together.

124. (Previously presented) The method of claim 122 wherein all of the data slices of the third multimedia object are progressively rendered before any of the data slices of the first and second multimedia objects are progressively rendered.

125. (Previously presented) The method of claim 122 wherein the data slices of the third multimedia object are rendered after all of the data slices of the first and second multimedia objects are rendered.

126. (Previously presented) The method of claim 122 wherein the data slices of the first and second multimedia objects can be progressively rendered independent of bandwidth without degradation.

127. (Previously presented) The method of claim 122 wherein the data slices of the third multimedia object cannot be progressively rendered independent of bandwidth without degradation.

128. (Previously presented) The method of claim 122 wherein the data slices of the third multimedia object are rendered only after all of the data slices of the third multimedia object are received.

129. (Previously presented) The method of claim 122 wherein the choreography information comprises an indication of the author's intent that the first, second, and third objects be rendered substantially together.

130. (Previously presented) The method of claim 129 wherein the rendering of the first, second, and third objects is delayed until all of the data slices of the third object are received by the recipient.

131. (Previously presented) The method of claim 122 wherein the first object comprises a text file.

132. (Previously presented) The method of claim 122 wherein the first object comprises an image file.

133. (Previously presented) The method of claim 122 wherein the second object comprises a text file.

134. (Previously presented) The method of claim 122 wherein the second object comprises an image file.

135. (Previously presented) The method of claim 122 wherein the third object comprises a sound file.

136. (Previously presented) The method of claim 122 wherein the third object comprises a video file.

137. (Previously presented) The method of claim 122 further comprising:
detecting an object type of a detected object that contains at least a portion of the multimedia content; and

determining, based on the detected object type, whether to interleave data slices of the detected object with data slices of another object of the multimedia document or whether to add the data slices of the detected object to the multimedia document without interleaving the data slices of the detected object with data slices of other objects of the multimedia document.

138. (Previously presented) The method of claim 137 wherein the detected object is one of the first and second objects.

139. (Previously presented) The method of claim 137 wherein the detected object is the third object.

140. (Previously presented) The method of claim 122 further comprising rendering the multimedia document in a window on a computer display at the recipient.

141. (Previously presented) The method of claim 140 wherein rendering the multimedia document further comprises:

creating an exclusionary area within the window; and

locating an item within the exclusionary area, the item being selected from a group of objects including a framed image, a slide show, framed text, sound data, a separator, or a hyperlink.

142. (Previously presented) The method of claim 122 wherein the multimedia content includes splash image data defining a splash image, the method further comprising locating the splash image data within the multimedia document such that the splash image is rendered on a computer display at the recipient as the splash image data is received by a receiver coupled to the computer display.

143. (Previously presented) The method of claim 122 further comprising providing each object with an address indicating a player that plays the object.

144. (Previously presented) The method of claim 122, further comprising compressing data for at least one of the objects.

145. (Previously presented) The method of claim 122 further comprising:
creating an unknown object in the multimedia document; and
locating player data within the unknown object defining a player that plays the unknown object.

146. (Previously presented) The method of claim 122 wherein two or more of the objects have at least one common attribute, including at least one of a command for perception of the objects, an ability to pass and receive a message, and an ability to supply and retrieve the data embodied in the objects.

147. (Previously presented) The method of claim 122 wherein the multimedia document forms a code segment that receives image information; and wherein the image information is used to construct an image frame for a framed image that is part of the multimedia document.

148. (Previously presented) The method of claim 147 wherein the framed image has an image data format; and wherein a decoder determines the image data format and encapsulates the framed image with the image frame.

149. (Previously presented) The method of claim 122 wherein the choreography information further comprises:

- a header;

- an object archive for storing information about one or more of the objects, the object archive including information about the relationship of the objects with the document; and

- a multiplex section including data for the objects in the document.

150. (Previously presented) The method of claim 149 wherein the multiplex section further includes:

- an object number counter indicating the number of objects;

- a plurality of object descriptions, each object description describing a corresponding one of the objects; and

- a choreography group providing information about a first group of objects.

151. (Previously presented) The method of claim 150 wherein the choreography group further comprises:

- a group object counter indicating the number of objects in the choreography group;

- size and type data for each object;

- header data; and

- the data slices of objects that are interleaved together or the data slices of an object that is not interleaved with other objects.

152. (Previously presented) The method of claim 150 further comprising a non-multiplex section following the multiplex section, the non-multiplex section including one or more separate objects that are not played by a player as the separate object files are received by a receiver.

153. (Previously presented) The method of claim 122 in which the temporal order is independent of a recipient input.

154. (Previously presented) The method of claim 122 in which the temporal order is independent of a recipient hardware configuration.

155. (Previously presented) The method of claim 122 in which the temporal order is independent of a recipient software configuration.

156. (Previously presented) The method of claim 122, wherein the media content is rendered independent of an author-specified bandwidth to be used to send the multimedia document.

157. (Previously presented) A computer implemented device for streaming multimedia objects encapsulated into a multimedia document, the device comprising instructions for: receiving author specification of multimedia content and choreography information that indicates a temporal order for rendering the multimedia content, the multimedia content being defined by at least first, second, and third multimedia objects,

interleaving data slices of the first and second multimedia objects with each other and adding the interleaved data slices to a multimedia document;

adding data slices of the third multimedia object to the multimedia document without interleaving the data slices of the third multimedia object with data slices of other objects in the multimedia document; and

streaming the multimedia document to a recipient for rendering according to the choreography information, such that the data slices of the first and second multimedia objects are progressively rendered together before all data slices of the first and second multimedia object are received and the data slices of the third multimedia object are progressively rendered only after a sufficient amount of the data slices of the third multimedia object are received to enable rendering of the third multimedia object.

158. (Previously presented) The device of claim 157 further comprising instructions for progressively rendering the data slices of the first, second, and third multimedia objects substantially together.

159. (Previously presented) The device of claim 157 further comprising instructions for progressively rendering all of the data slices of the third multimedia object before progressively rendering any of the data slices of the first and second multimedia objects.

160. (Previously presented) The device of claim 157 further comprising instructions for progressively rendering the data slices of the third multimedia object after progressively rendering all of the data slices of the first and second multimedia objects.

161. (Previously presented) The device of claim 157 wherein the data slices of the first and second multimedia objects can be progressively rendered independent of bandwidth without degradation.

162. (Previously presented) The device of claim 157 wherein the data slices of the third multimedia object cannot be progressively rendered independent of bandwidth without degradation.

163. (Previously presented) The device of claim 157 further comprising instructions for rendering the data slices of the third multimedia object only after all of the data slices of the third multimedia object are received.

164. (Previously presented) The device of claim 157 further comprising instructions for: detecting an object type of a detected object that contains at least a portion of the multimedia content; and

determining, based on the detected object type, whether to interleave data slices of the detected object with data slices of another object of the multimedia document or whether to add

the data slices of the detected object to the multimedia document without interleaving the data slices of the detected object with data slices of other objects of the multimedia document.

165. (Previously presented) The device of claim 157 further comprising instructions for rendering the media content independent of an author-specified bandwidth to be used to send the multimedia document.

166-173. (Canceled)

174. (Withdrawn) A method for building a multimedia document for communicating multimedia objects, the method comprising:

accessing a multimedia object to be included in a multimedia document;

detecting the type of the multimedia object; and

determining, based on the detected multimedia object type, whether or not to interleave data slices of the multimedia object with data slices of one or more other objects to be included in the multimedia document.

175. (Withdrawn) The method of claim 174 wherein when the detected multimedia object is an text file, determining to interleave the data slices of the multimedia object with data slices of one or more other objects in the multimedia document.

176. (Withdrawn) The method of claim 174 wherein when the detected multimedia object is an image file, determining to interleave the data slices of the multimedia object with data slices of one or more other objects in the multimedia document.

177. (Withdrawn) The method of claim 174 wherein when the detected multimedia object is a sound file, determining not to interleave the data slices of the multimedia object with any other data slices of other objects in the multimedia document.

178. (Withdrawn) The method of claim 174 wherein when the detected multimedia object is a video file, determining not to interleave the data slices of the multimedia object with any other data slices of other objects in the multimedia document.

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Evidence Appendix

None.

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Related Proceedings Appendix

None.